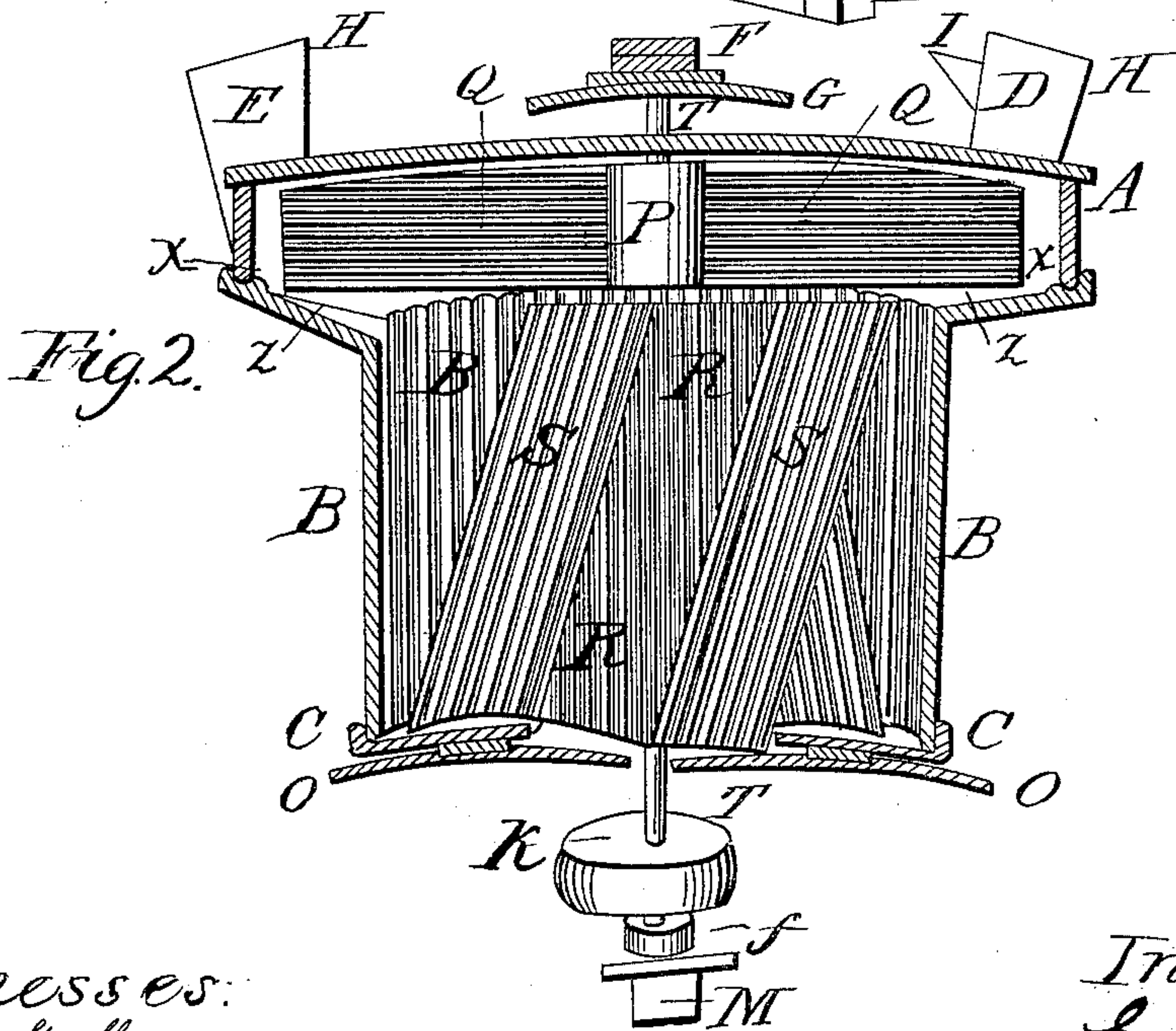
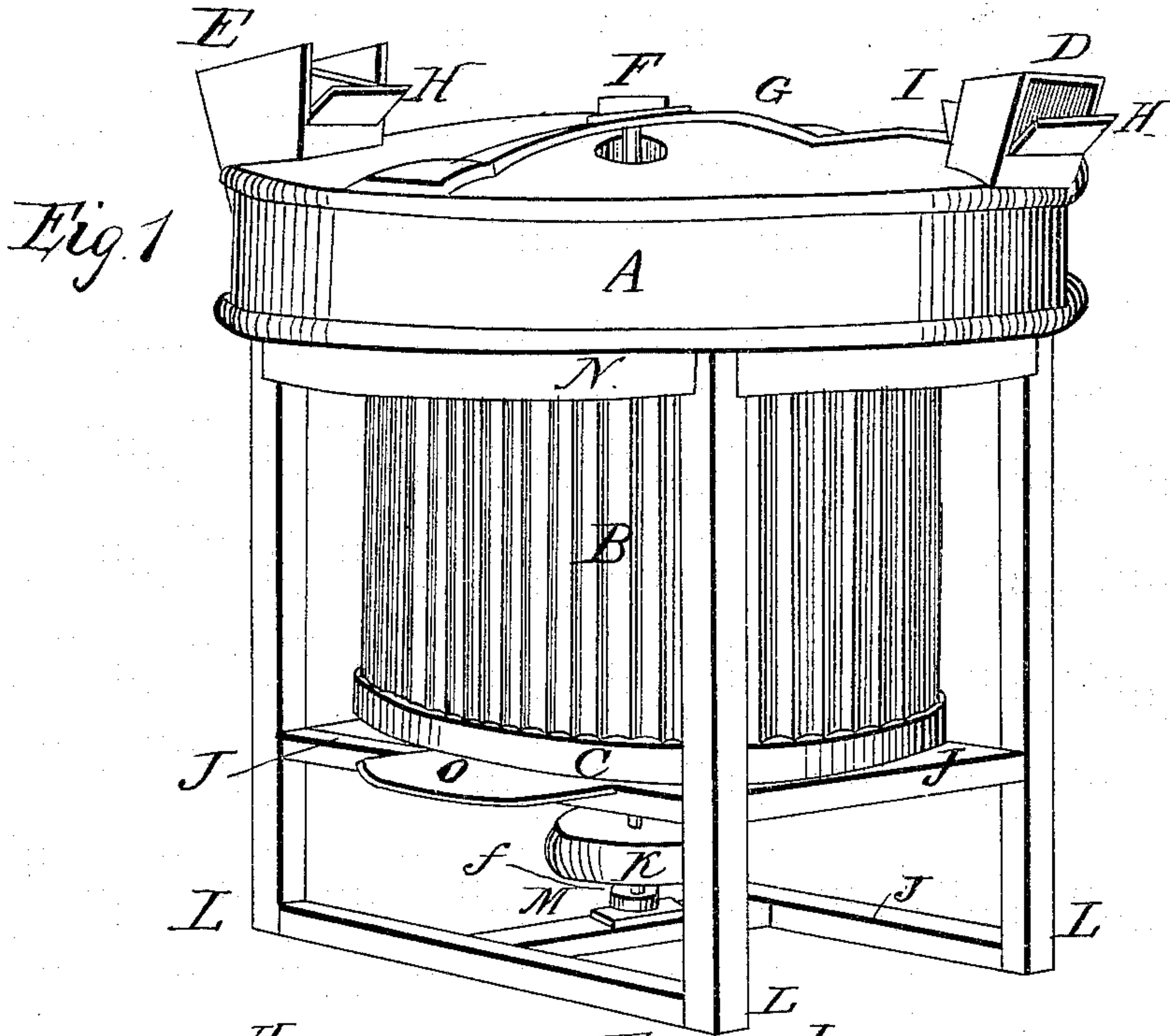


E. M. CLARK.

Smut Machine,

No. 22,490.

Patented Jan'y 4, 1859.



Witnesses:
Jacob Stauffer
John B. Ruple

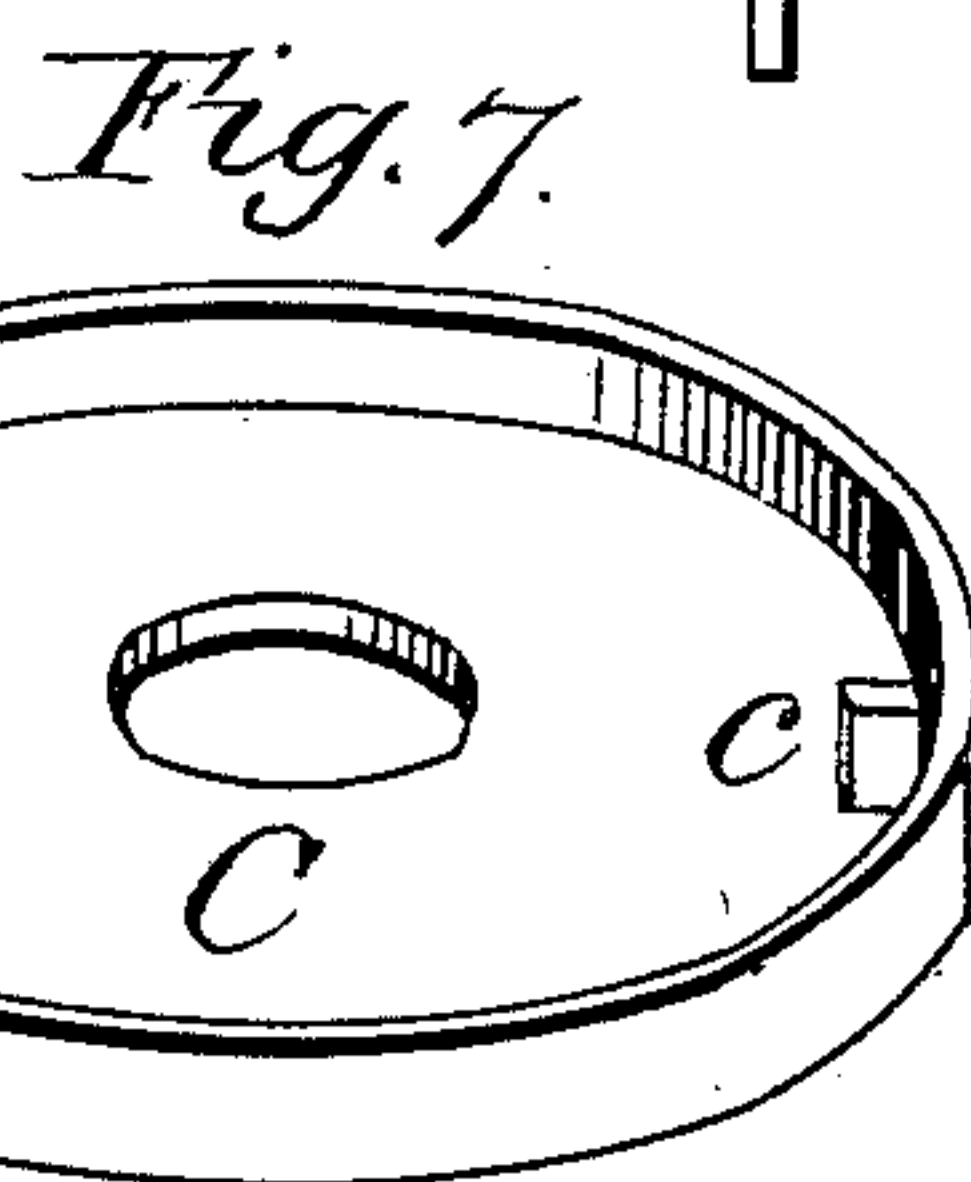
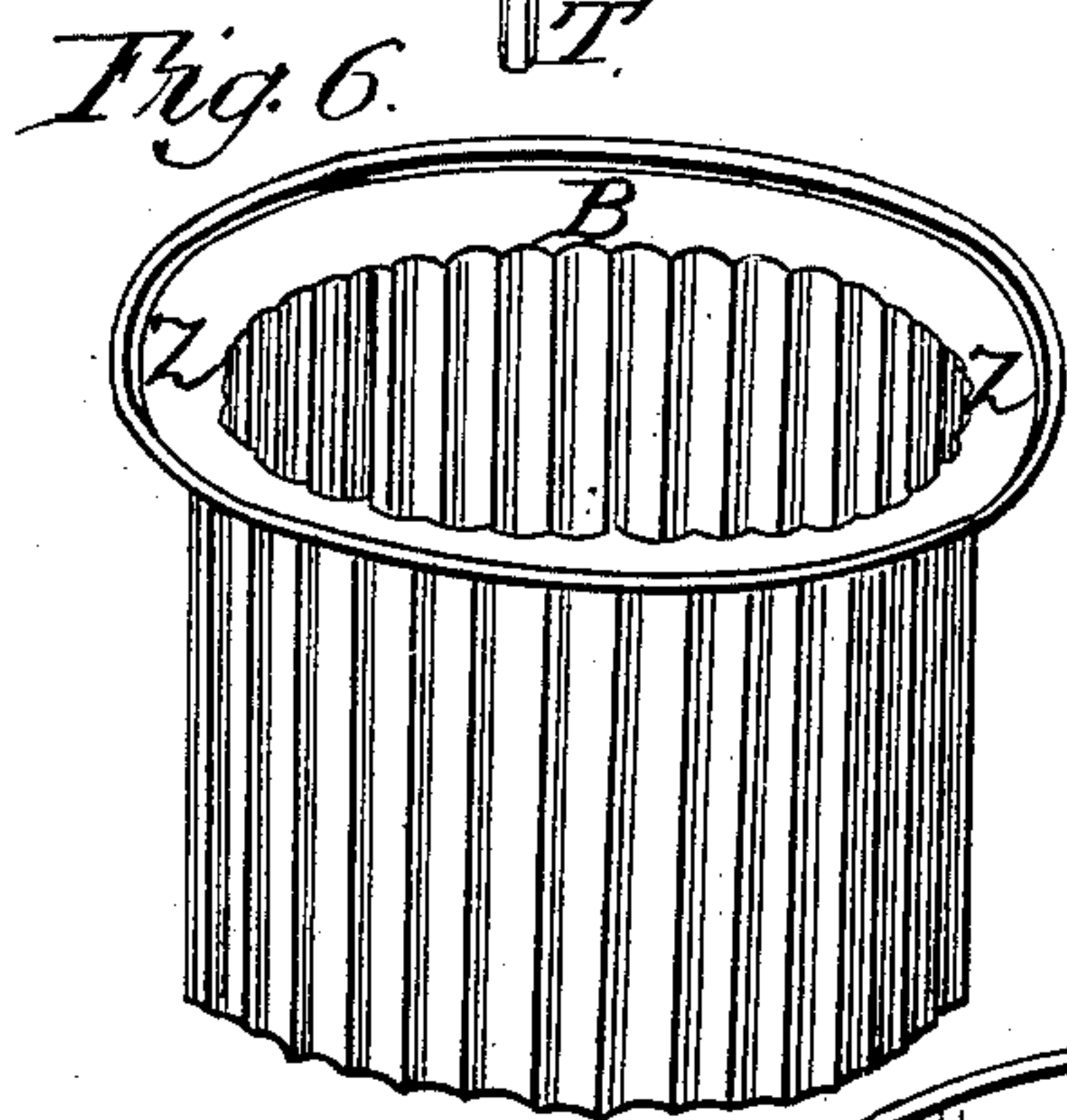
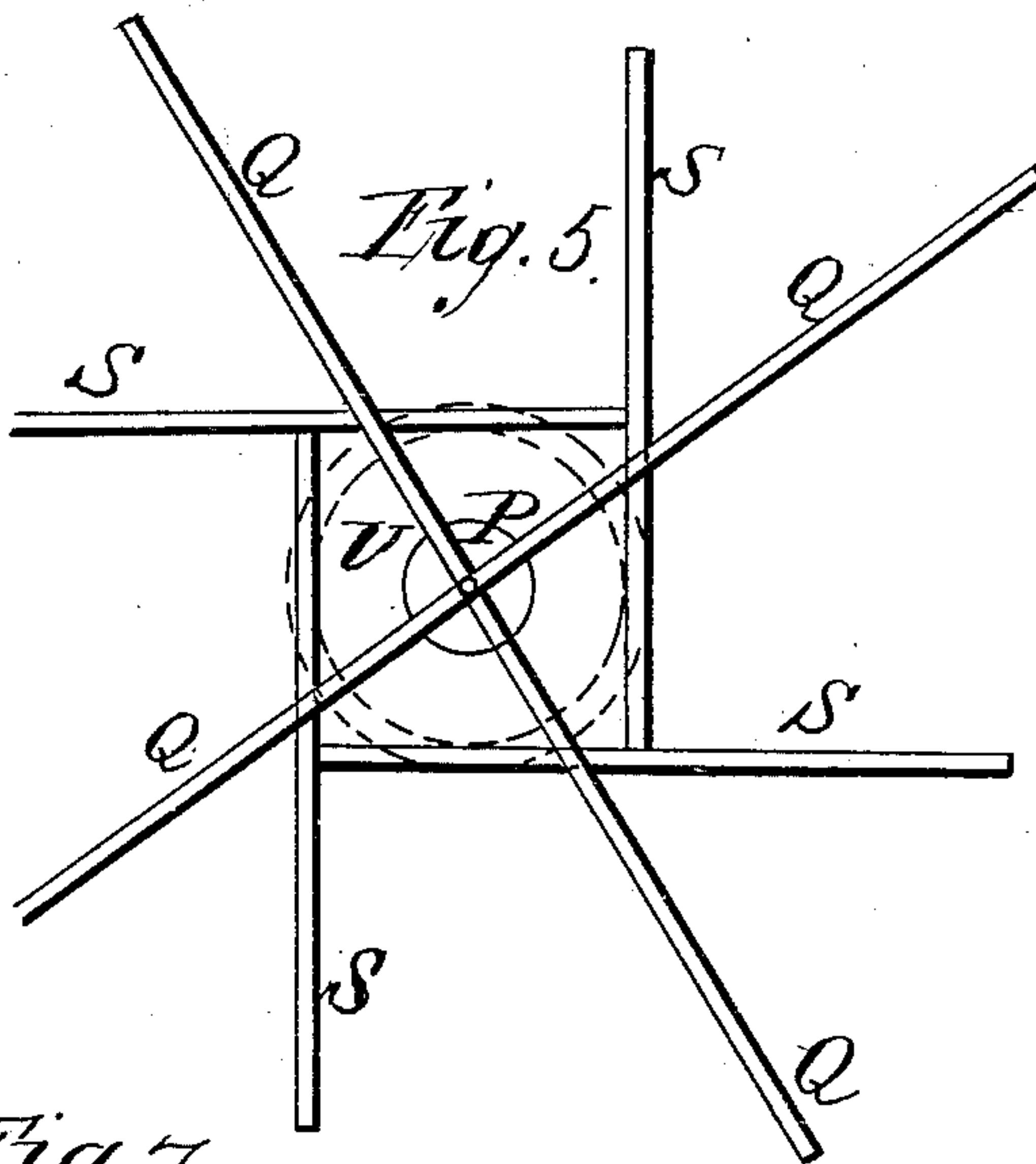
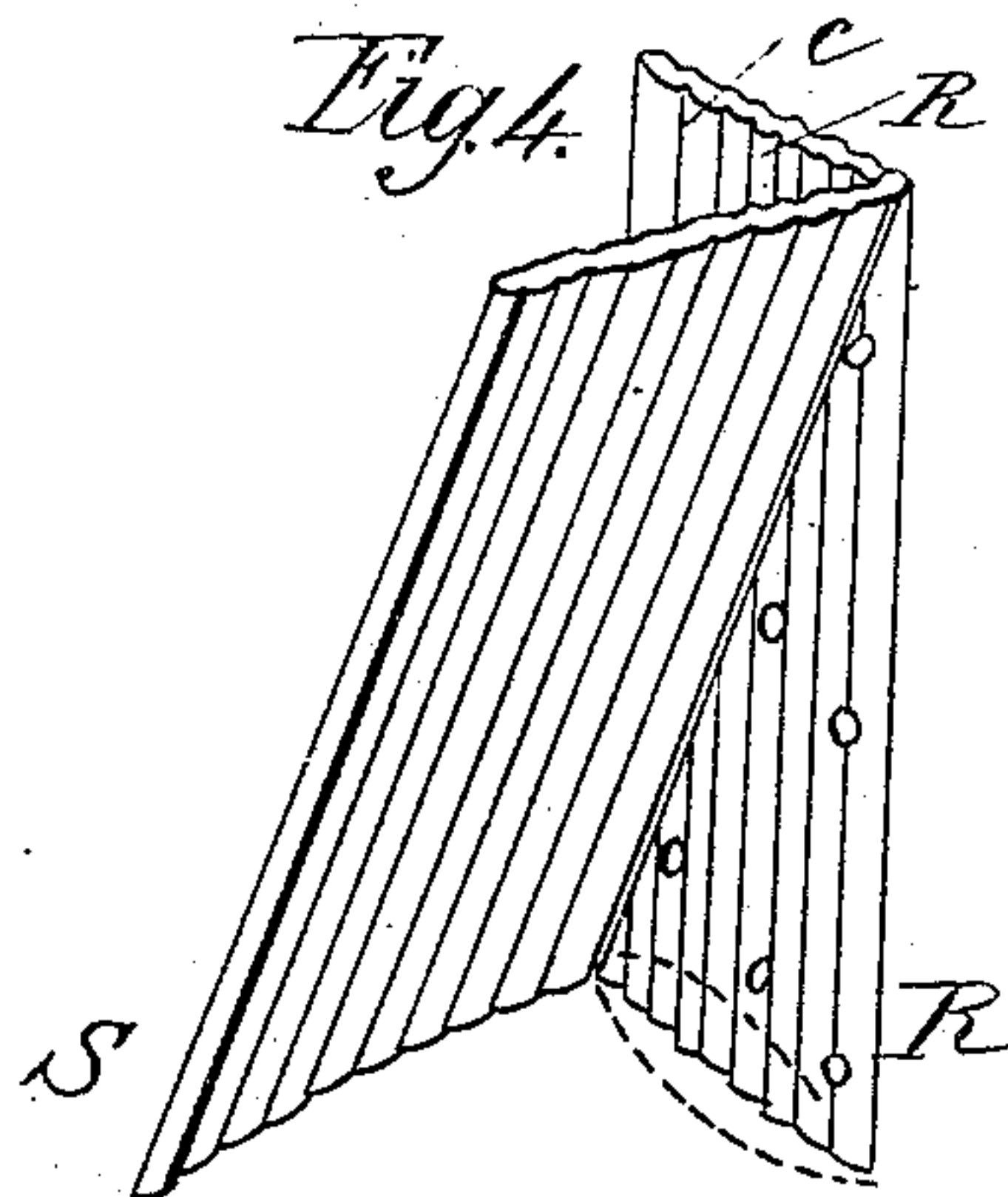
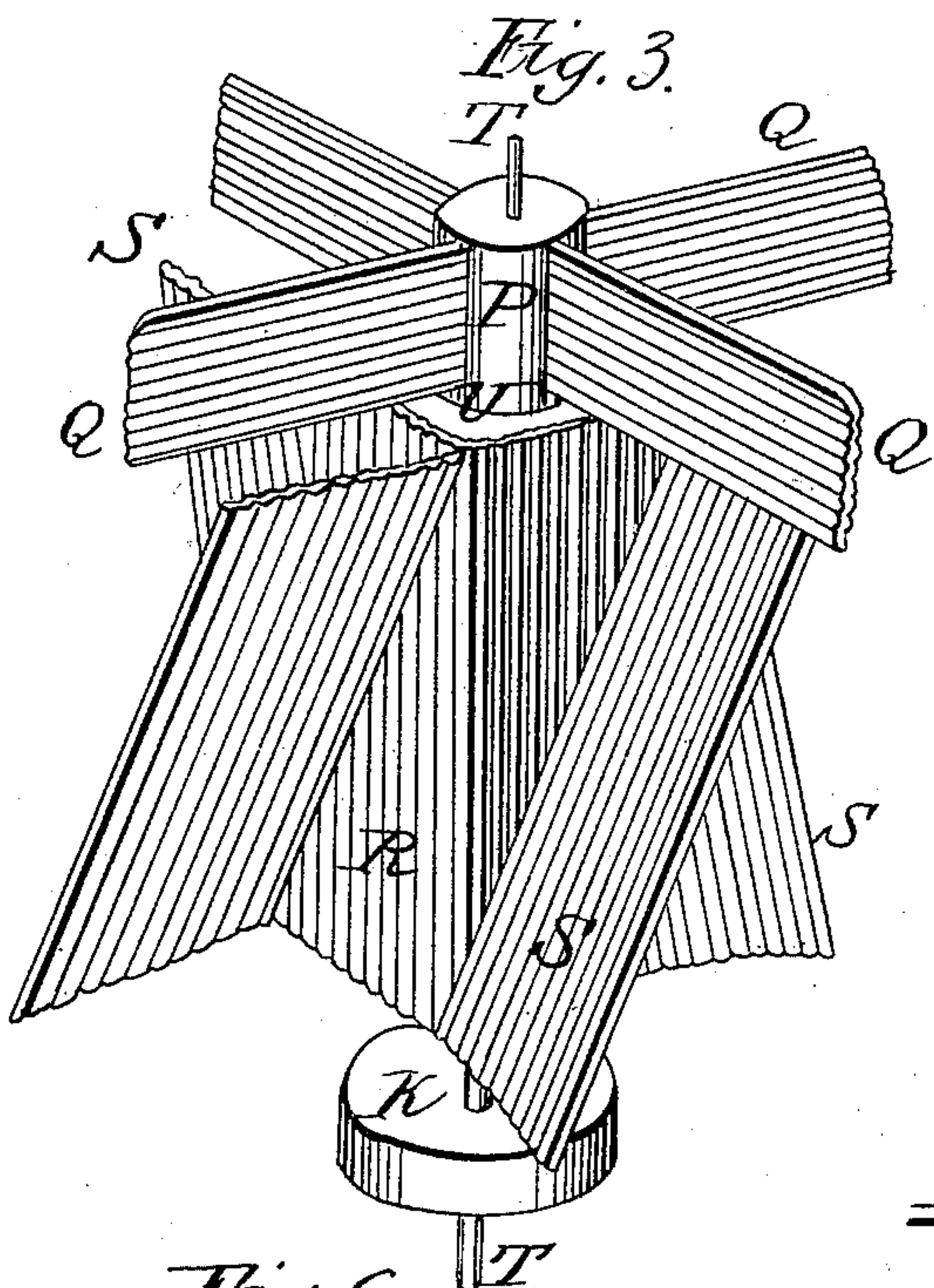
Inventor
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UNITED STATES PATENT OFFICE.

E. M. CLARK, OF LANCASTER, PENNSYLVANIA.

SMUT-MACHINE.

Specification of Letters Patent No. 22,490, dated January 4, 1859.

To all whom it may concern:

Be it known that I, EVERARD M. CLARK, of the city of Lancaster, in the county of Lancaster and State of Pennsylvania, have invented a new and useful Device for Cleaning Grain, called "The Combined Scouring and Suction-Fan Smut-Machine"; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the machine mounted on the circular rim or top N, supported by the four uprights I, and cross-ties J.

Fig. 2 is a descriptive view of the same, showing the adjustment and position of the several parts in an out side, (the same letters on the several drawings referring to the same thing designated.) A the top or cap say, six inches deep, and twenty-two inches in diameter, which rests in a groove, *a*, made by the double raised edge on the slightly beveled and projecting rim *z*, of the doubly fluted cylinder B, which latter is, say, fifteen inches in diameter and sixteen inches deep, from the inside of the rim *z*, and rests on the bottom C, retained by its raised edge, as the bottom C, being convexed, having a large central opening for admitting air to the machine and also a side opening *c*, for discharging the grain, underneath of which are miter catches to hold the slide-valves, *o*, *o*, for regulating the draft or entirely closing the bottom by causing them to embrace the spindle or shaft T, driven by the strap pulley K, and on which, above at P, are the grooved wings or beaters, Q, revolving in the cap, A, and longer than the grooved, diagonal wings or beaters, S, R, on the center U, beneath them, revolving in the cylinder B.

F, is the upper journal-box on the cross-tie G, attached to and over the top, A; *f*, is the lower journal-box, on the cross-timber M, of the frame.

Fig. 3 is a perspective view of the combined suction-fan P, Q, Q, and R, S, S; pulley K, and spindle T.

Fig. 4 is one of the wings S, on its support R, so cast as to run diagonally from the top of the one side to the bottom of the opposite side, and grooved or fluted on both sides, of equal width, the lower edge adapted and parallel with the convexed bottom C. The support R, may be curved or flat, either for

attaching to a circular or square center wooden column U, as preferred.

Fig. 5 shows the position of the upper edge of the diagonal wings S, on U, at right angles, or in a line with the sides, also the wings or beaters Q, on the upper hub P, and their fixed position with respect to the lower wings or beaters S, aforesaid, both sets of wings or beaters made to revolve by the spindle T, and strap pulley K.

Fig. 6 is a reduced view of the rimmed cylinder B, fluted inside, and out, Fig. 7, the base C, with its convexed bottom having a large central opening and a side opening *c*, through which the cleaned grain is discharged.

The operation of the machine and construction being simple and readily understood by a glance at the drawings. As the grain is fed into the machine by the ordinary spout D at I, it is arrested and scattered by the upper wings or beaters Q and much of the lighter materials driven off in the spout D, through the valve H, before it enters the machine, in combination with the lower diagonal wings or beaters S, (which may be four or more in number,) a powerful suction is induced, keeping the grain suspended, while it is beaten to and fro between the grooved wings and sides of the cylinder and thereby effectually scouring off the fuzzy ends of the grain, hulling it from all appending chaff, which is expelled with the cheat, smut or lighter matter whatever through the open spout E, which has a side valve H, so pivoted as to open outward or close the spout inward (if desired) more or less. The healthy and cleaned grain finds the bottom by gravitation, (and it being convexed,) rolls to the outer edge, where the lower edge of the fans, S, act as conveyers and the grain is thus discharged at the spout opening *c*, in the bottom C, of the machine.

What I claim as my invention and desire to secure by Letters Patent are—

The diagonal grooved wings or beaters S, the upper and longer grooved wings or beaters Q, the two sliding valves O, O on the bottom of the machine for regulating the draft when combined substantially as herein set forth.

E. M. CLARK.

Witnesses at signing:

JACOB STAUFFER,

JACOB S. KAUFFMAN.